

Amendments to Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1.-13. (canceled)
14. (currently amended) An isolated nucleic acid fragment comprising:
 - (a) a nucleotide sequence encoding a polypeptide having methionine synthase activity, wherein the amino acid sequence of the polypeptide and the amino acid sequence of SEQ ID NO: 2 or 4 have at least 90% sequence identity based on the Clustal alignment method with default parameters, or
 - (b) the full complement of the nucleotide sequence of (a).
15. (previously presented) The isolated nucleic acid fragment of claim 14, wherein the amino acid sequence of the polypeptide and the amino acid sequence of SEQ ID NO:2 or 4 have at least 95% sequence identity based on the Clustal alignment method.
16. (previously presented) The isolated nucleic acid fragment of claim 14, wherein the polypeptide comprises the amino acid sequence of SEQ ID NO:2 or 4.
17. (previously presented) The isolated nucleic acid fragment of claim 14, wherein the nucleotide sequence comprises the nucleotide sequence of SEQ ID NO:1 or 3.
18. (previously presented) A vector comprising the isolated nucleic acid fragment of claim 14.
19. (previously presented) A recombinant DNA construct comprising the isolated nucleic acid fragment of claim 14 operably linked to at least one regulatory sequence.
20. (previously presented) A method for transforming a cell comprising transforming a cell with the isolated nucleic acid fragment of claim 19.
21. (previously presented) A cell comprising the recombinant DNA construct of claim 19.

22. (previously presented) A method for producing a plant comprising transforming a plant cell with the isolated nucleic acid fragment of claim 14 and regenerating a plant from the transformed plant cell.

23. (previously presented) A plant comprising the recombinant DNA construct of claim 19.

24. (previously presented) A seed comprising the recombinant DNA construct of claim 19.

25. (canceled)

26. (withdrawn) An isolated polypeptide having methionine synthase activity, wherein the amino acid sequence of the polypeptide and the amino acid sequence of SEQ ID NO: 2 or 4 have at least 90% identity based on the Clustal alignment method.

27. (withdrawn) The polypeptide of Claim 26, wherein the amino acid sequence of the polypeptide and the amino acid sequence of SEQ ID NO:2 or 4 have at least 95% identity based on the Clustal alignment method.

28. (withdrawn) The polypeptide of Claim 26, wherein the amino acid sequence of the polypeptide comprises the amino acid sequence of SEQ ID NO:2 or 4.

29. (previously presented) A method for isolating a polypeptide encoded by the isolated nucleic acid fragment of claim 14 comprising isolating the polypeptide from a cell containing a recombinant DNA construct comprising the polynucleotide operably linked to at least one regulatory sequence.

30. (withdrawn) A nucleic acid fragment comprising

- (a) the recombinant DNA construct of claim 19, and
- (b) a second recombinant DNA construct comprising a nucleic acid fragment encoding a plant cystathionine γ -synthase or a functionally equivalent subfragment thereof or a complement thereof operably linked to at least one regulatory sequence.

31. (currently amended) A method for increasing methionine content of the seeds of plants comprising:

- (a) transforming plant cells with the recombinant DNA construct of claim 19;
- (b) growing fertile mature plants from the ~~untransformed~~ transformed plant cells obtained from step (a) under conditions suitable to obtain seeds; and

(c) selecting progeny seed of step (b) for those seeds containing increased levels of methionine compared to untransformed seeds.

32. (currently amended) A method for increasing methionine content of the seeds of plants comprising:

- (a) transforming plant cells with the nucleic acid fragment of claim 30;
- (b) growing fertile mature plants from the ~~untransformed~~ transformed plant cells obtained from step (a) under conditions suitable to obtain seeds; and
- (c) selecting progeny seed of step (b) for those seeds containing increased levels of methionine compared to untransformed seeds.

33. (currently amended) A method for producing plant methionine synthase comprising:

- (a) transforming microbial host cells with the recombinant DNA construct ~~chimeric gene~~ of Claim 19;
- (a) growing the transformed microbial cells obtained from step (a) under conditions that result in expression of the methionine synthase protein.